Double Mini Relay DMR

Features

- Limiting continuous current 30 A
- Easiest PCB routing among all PCB relays

Typical Applications

- Car alarm
- Door control
- Door lock
- Immobilizer
- Seat control
- Sun roof
- Window lifter
- Wiper control

Please contact Tyco Electronics for relay application support.

84C_3d05

Design

- ELV/RoHS/WEEE compliant
- Sealed type washable

Weight

Approx. 10 g (0.35 oz.)

Nominal Voltage

12 V

Terminals

PCB terminals for assembly on printed circuit boards

Conditions

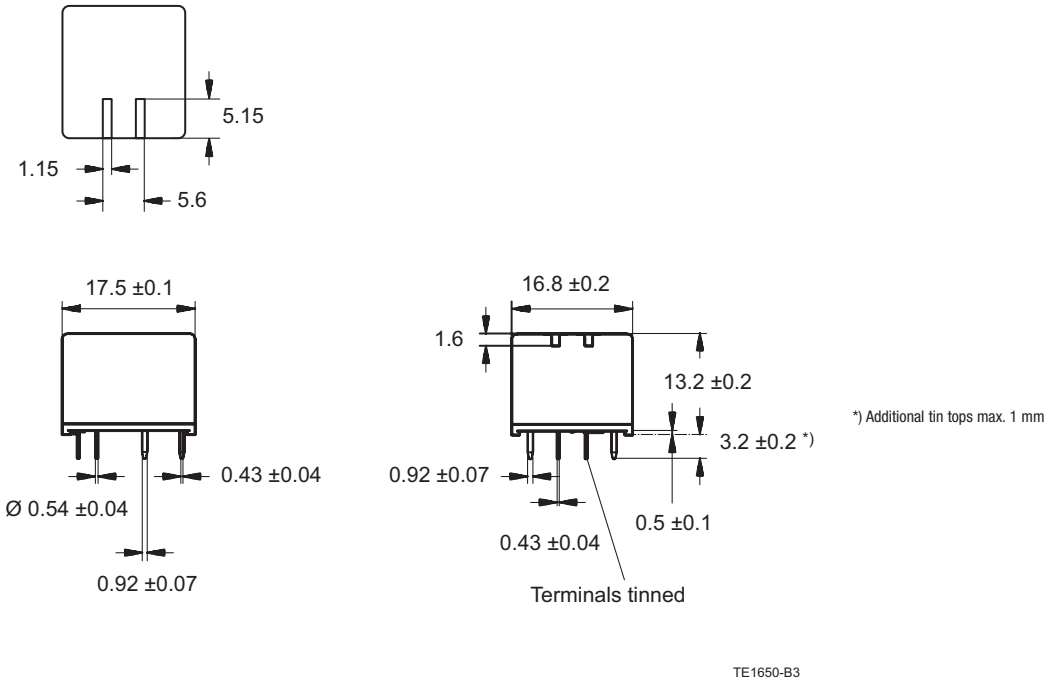
All parametric, environmental and endurance tests are performed according to EIA Standard RS-407-A at standard test conditions unless otherwise noted:
23°C ambient temperature,
20 - 50% RH, 998.9 ±33.9 hPa.

For general storage and processing recommendations please refer to our Application Notes and especially to *Storage* in the “Glossary” page 23 or at http://relays.tycoelectronics.com/appnotes/

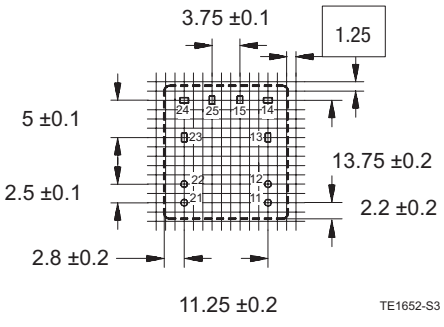
Disclaimer

Double Mini Relay DMR

Dimensional Drawing



View of the Terminals (bottom view)



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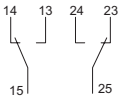
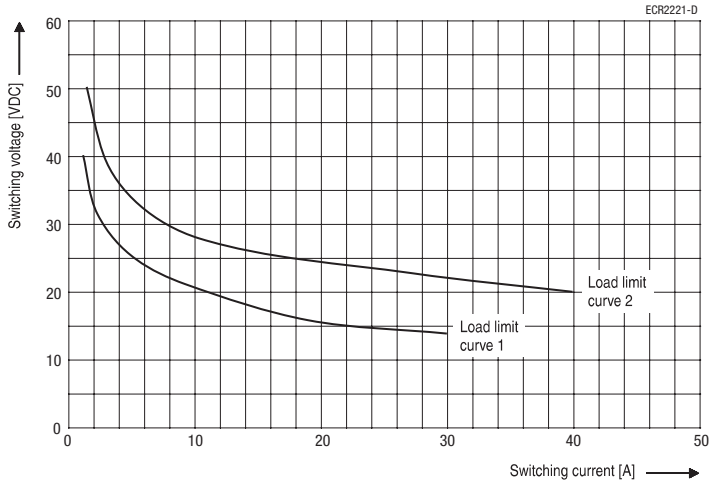
Contact Data

Contact configuration	2 Changeover contacts/ 2 Form C			
Circuit symbol (see also Pin assignment)				
Rated voltage	12 V (standard)			
Rated current	Both systems 15 A/15 A	Motor reverse[1) 3)] 30 A/30 A	Both systems 12 A/12 A	Motor reverse[1) 3)] 30 A/30 A
Limiting continuous current				
23°C	20 A/20 A	30 A/30 A[3)]	18 A/18 A	30 A/30 A[3)]
85°C	15 A/15 A	30 A/30 A	12 A/12 A	30 A/30 A
105°C	0 A	0 A	0 A	0 A
Contact material	AgNi 0,15		$AgSnO_2$	
Max. switching voltage/power	See load limit curve			
Max. switching current[1)] Off	NC/NO 35 A/35 A			
Min. recommended load[2)]	1 A at 5 V			
Voltage drop at 10 A (initial) for NC/NO contacts	Typ. 30 mV, 300 mV max.			
Mechanical endurance (without load)	> 10^7 operations			
Electrical endurance at cyclic temperature –40/+23/+85°C and 13.5 V	Motor reverse blocked: > 10^5 operations at 25 A 0.77 mH inductive load		Lamp load: > 2 x 10^5 operations at 45 A (on), 8 A (off), 13.5 V, 80°C Resistive load: > 2 x 10^5 operations at 20 A, 13.5 V, 80°C	

[1)] The values apply to a resistive or inductive load with suitable spark suppression and at maximum 13.5 V for 12 V load voltages.
[2)] See chapter Diagnostics of Relays in our Application Notes page 31 or consult the internet at http://relays.tycoelectronics.com/appnotes/
[3)] At 50% ON period: max. make time 15 s.

Load Limit Curve



Load limit curve 1 ≙ arc extinguishes during transit time

Load limit curve 2 ≙ safe shutdown, no stationary arc

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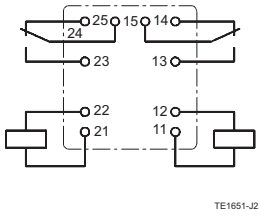
Circuit Diagram

2 Changeover contacts/2 Form C
PCB terminals

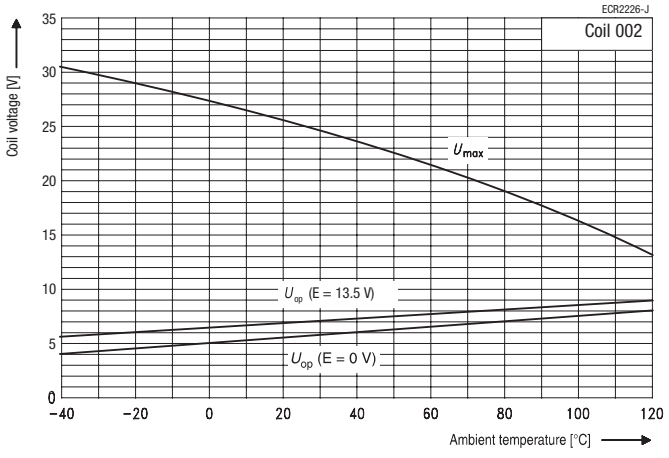


Coil Data	Standard Coil 001	Sensitive Coil 002
Available for nominal voltages	12 V	
Nominal power consumption of the unsuppressed coil at nominal voltage	0.56 W	0.81 W
Test voltage winding/contact	500 VAC_{rms}	
Maximum ambient temperature range	–40 to +85°C	
Operate time at nominal voltage	Typ. 3 ms	
Release time at nominal voltage[1)]	Typ. 1.3 ms	

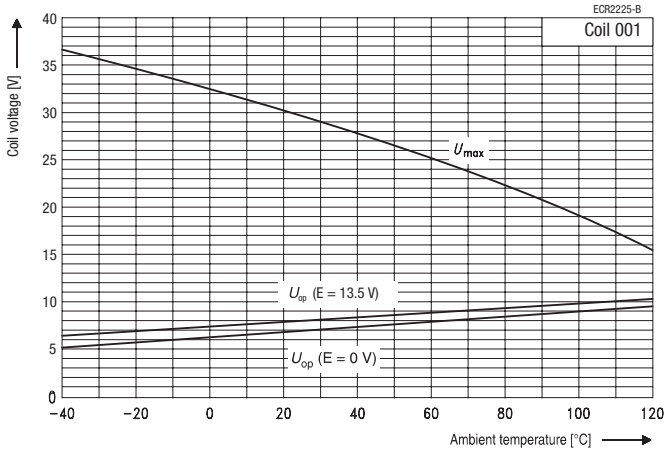
[1)] For unsuppressed relay coil

Note:
A low resistive suppression device in parallel to the relay coil increases the release time and reduces the lifetime caused by increased erosion and/or higher risk of contact tack welding.

Operating Voltage Range



Does not take into account the temperature rise due to the contact current
E = pre-energization



Does not take into account the temperature rise due to the contact current
E = pre-energization

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Environmental Conditions				
Temperature range, storage	Refer to *Storage* in the "Glossary" catalog page 23 or http://relays.tycoelectronics.com/appnotes/			
Test	Relevant standard	Testing as per	Dimension	Comments
Cold storage	IEC 68-2-1		1000 h	–40°C
Dry heat	IEC 68-2-2	Ba	1000 h	125°C
Temperature cycling	IEC 68-2-14	Nb	35 cycles	–40/+125°C
Thermal shock	IEC 68-2-14	Na	1000 cycles	–40/+125°C
Damp heat [1)]				
cyclic	IEC 68-2-30	Db, variant 2	6 cycles	25°C/55°C/93% rh
constant	IEC 68-2-3	Method Ca	56 days	40°C/95% rh[1)]
Resistance to aggressive liquids	VDA-test-conditions 621	Liquid 1-11		48 h/50°C drying
Vibration resistance	IEC 68-2-6 (vibration, sinusoidal) acceleration, depending on position		10 - 200Hz 6 - 30 g	No change in the switching state > 10 µs
Shock resistance	IEC 68 - 2 - 29 (half sine)		6 ms 30 g	No change in the switching state > 10 µs
Solderability	IEC 68-2-20	Ta, method 1	Hot dip 5 s 215°C	Aging 3 (4 h/155°C) for leaded process (Tm = 183°C) for Pb-free process (Tm = 217°C)
Resistance to soldering heat	IEC 68-2-20	Tb, method 1A	Hot dip 10 s 260°C	with thermal screen
Sealing	IEC 68-2-17	Qc, method 2		1 min/70°C
Wipe resistance	IEC 68-2-45	Propanol-2-ol or dest. water	5 min	Room temperature

[1)] Relays have to be dried at 85°C for 24 hours after test.

Ordering Information

Part Numbers (see table below for coil data)		**Contact Arrangement**	**Contact Material**	**Enclosure**	**Terminals**
Relay Description	**Part Number**				
V23084-C2001-A303	1393267-2	2 Form C	AgNi0.15	Immersion cleanable	Printed circuit
V23084-C2002-A303	1-1393267-0	2 Form C	AgNi0.15	Immersion cleanable	Printed circuit
V23084-C2001-A403	1393267-6	2 Form C	$AgSnO_2$	Immersion cleanable	Printed circuit
V23084-C2002-A403	1-1393267-2	2 Form C	$AgSnO_2$	Immersion cleanable	Printed circuit

Coil Versions

Coil Data for DMR	**Rated Coil Voltage (V)**	**Coil Resistance ±10% (Ω)**	**Must Operate Voltage (V)**	**Must Release Voltage (V)**	**Allowable Overdrive [1)] Voltage (V)**	
					at 23°C	**at 85°C**
V23084-**001-****	12	255	6.9	1	31	24
V23084-**002-****	12	178	5.8	0.8	25.8	19.5

[1)] Allowable overdrive is stated with no load applied and minimum coil resistance.

Standard Delivery Packs (orders in multiples of delivery pack)

DMR: 600 pieces